Logical Fallacies

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Logic is the study of reasoning.¹ The proper use of reasoning is essential in our apologetic—in our defense of the faith. Understanding logic can help us avoid using incorrect reasoning as we minister to others. It can also help us recognize when others make such errors.

A logical argument—a claim—may be false due to one of many common errors in reasoning called “logical fallacies.” These “fallacious claims” are in our daily lives: in social media, everyday conversations, TV news, advertisements, books, and even classrooms. Such errors are frequently made by both creationists and evolutionists. Some users of these fallacious claims are even aware that they are using a logical fallacy. They use it anyway, since using a logical fallacy is often very effective in convincing others that your claim is true.

It is very important to learn some of the more common logical fallacies for three reasons:

1) To avoid making these errors in your own apologetic.
2) To notice these errors when used by other creationists.
3) To notice these errors when used by evolutionists.

You may be amazed to find out that a fallacious argument (an error in reasoning) may have a conclusion that is true. A fallacious argument is simply considered to be an invalid argument—even a worthless argument, as it may have a true or a false conclusion.

¹ A college textbook on logic states, “Logic is the study of the methods and principles used to distinguish correct from incorrect reasoning. ...Using the methods and techniques of logic—the subject matter of this book—we can distinguish reliably between sound and faulty reasoning.” Irving M. Copi and Carl Cohen, Introduction to Logic, 13th ed. (Upper Saddle River NJ: Pearson Prentice Hall, 2009), 4.
This article series began in the spring 2018 *LSI Journal* with a four page discussion of logic ([www.LutheranScience.org/2018spring](http://www.LutheranScience.org/2018spring)). Consider rereading that article. That issue of the *LSI Journal* also had an article on the straw-man fallacy. We continue this series by examining additional logical fallacies commonly used by creationists and evolutionists. Some of these fallacies have multiple names, which you may find used in other sources.

The most important skill to acquire by studying logical fallacies, is to recognize that a fallacious claim is being made. It is useful to also know the exact fallacy being used, but that is far less important. Most importantly, remember that you are ministering to others. *Show the love of Christ in your apologetic.*

### No True Scotsman

**Using a biased definition to make your claim seem to be true.**

The no true Scotsman fallacy is easy to remember once you have heard the story behind the name. A book on logic relates that story. Jason Lisle explains,

The example from which the name of this fallacy is taken is this: Person A asserts that no Scotsman puts sugar on his porridge. Person B refutes this claim by providing a counter-example: “Angus is a Scotsman—and he puts sugar on his porridge.” But Person A responds by saying, “Ah, but no *true* Scotsman puts sugar on his porridge.” He has essentially refined the term “Scotsman” in such a way that his original claim cannot be wrong. But since the definition is fallacious, so is his argument. This comes up in origins debates quite frequently:

**Evolutionist:** “No scientist believes that God created everything in six days.”
Creationist: “The scientists at Answers in Genesis believe that God created in six days.”

Evolutionist: “Well, no real scientist believes that God created in six days.”²

Watch out for evolutionists defining terms in a biased way to support their claims both for evolution and against creation. It is extremely common. We Christians also need to be careful not to use biased terms to defend our faith in the Creator God of Scripture, which sadly, is also far too common.

Evolutionists using the “No True Scotsman” fallacy

There is no dissent among serious biologists about the major claims of evolutionary theory.³

No serious biologist doubts these propositions [the common descent of species by natural selection].⁴

There is no debate within the scientific community over whether evolution occurred.⁵

But there is no controversy within the scientific community over whether evolution occurred.⁶

The first two claims above define “serious biologists” as biologists who do not question the major claims of evolution. There are many biologists who reject millions of years, but one only needs a single example to disprove such a broad claim. Here are two examples: Answers in Genesis

² Jason Lisle, Discerning Truth – Exposing Errors in Evolutionary Arguments (Green Forest: Master Books, 2010), 78.
⁴ Coyne, 223.
has several biologists on their staff. “Dr. Nathaniel Jeanson holds a PhD in cell and developmental biology from Harvard University.” “Dr. David Menton holds a PhD in biology from Brown University and served as an award-winning professor at Washington University School of Medicine in St. Louis for 34 years.” Similarly, the last two claims define “scientific community” as the portion of that community that does not question evolution.

No unbiased reader will close the book doubting [evolution].

This claim defines an “unbiased reader” as a reader of Dawkins’ book who does not doubt evolution. All readers who do not accept evolution as true are declared to be biased.

There is no evidence that evolution has not occurred.

Despite the lack of scientific evidence for creationist positions...

Nor is there any evidence that the entire geological record, with its orderly succession of fossils, is the product of a single universal flood that occurred a few thousand years ago, lasted a little longer than a year, and covered the highest mountains to a depth of several meters.

Some evolutionists claim there is no evidence (not even weak evidence) showing evolution to be false or creation to be true. Their biased definition for the word “evidence” arbitrarily rejects all evidence against evolution or for creation. If the standard and widely used definition for evidence is used, then there is evidence for creation and against evolution.

7 https://answeringgenesis.org/bios/ (accessed 7-1-20)
9 Working group on Teaching Evolution, 4.
10 Committee on revising science and creationism, 43.
https://www.nap.edu/download/6024

Logical Fallacies
Creationists using the “No True Scotsman” fallacy

In summing up an examination of prehistory, the literature shows many attempts to deal with the past, from serious scientists who report honestly, to evolutionists whose first loyalty is to their theory despite the evidence, and to those who are often called the lunatic fringe.12

This creationist defines “serious scientists” as those who reject evolution, and in doing so, uses the no true Scotsman fallacy. These serious scientists (creationists) practice science “honestly” while non-serious scientists (evolutionists) practice science dishonestly.

a supposedly scientific enterprise13

An accepted scientific method for dating seafloor drillings to evolutionary timescales is called “a supposedly scientific enterprise” in a creationist magazine. Now this creationist may be correct in pointing out that a particular detail used in this calculation method is in error, or he may be incorrect. Either way, he is claiming that an accepted and widely used scientific method is not scientific because he is using a biased definition for “science.” If the standard and widely used definition for science is used, then the method is scientific.

There Is No Evidence Evolution Took Place in the Past.14

Evolution...without a shred of scientific evidence supporting it.15

Some creationists commonly claim that there is no evidence for evolution. They claim evolution has no evidence at all, not even weak evidence. This claim commits the “no true Scotsman” error in reasoning, because it uses a biased definition for the word “evidence.” Such creationists

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define “evidence” in this context as being certain solid proof. They claim weak evidence, or evidence that seems to support both sides, is really not evidence at all. If the standard and widely used definition for evidence is used, then evolution does have evidence. Creationists tend to see most of the evidence for common descent and millions of years as being rather weak, but it is still evidence, and even that weak evidence has convinced many that evolution is true.

True science always supports the Scriptures.\textsuperscript{16}
True science has always affirmed the teaching of Scripture.\textsuperscript{17}
True science demonstrates the truth of the biblical record.\textsuperscript{18}
But real science shows that comets are not that old.\textsuperscript{19}
In reality, there is harmony between science and religion.\textsuperscript{20}
True science always lines up with God’s Word when properly understood.\textsuperscript{21}

[Evolution is] pseudoscience.\textsuperscript{22}

Some creationists claim that science and the Bible are always in harmony when both are properly understood. Some creationists commonly use the term “true science” or “real science” to describe science that agrees with Scripture, and “false science,” “pseudoscience,” or “science falsely so-called” to describe science that disagrees with Scripture. In

\textsuperscript{20} Michael L. McCoy, \textit{A Christian Perspective on Creation vs. Evolution}, (St. Louis, Concordia Publishing House: 1996), 27.
\textsuperscript{21} Jay Seegert, “Faith is not a 4-Letter word,” presented Feb 26, 2013 to the Creation Science Society of Milwaukee (CSSM) annual business meeting, at Milwaukee Lutheran High School. Quote is from the meeting advertisement on the CSSM website at that time.
\textsuperscript{22} Von Fange, 265.
making this claim, they have removed from science everything that disagrees with Scripture. The result of this biased definition is that science always agrees with Scripture, because that is how they have redefined the word “science.”

Conclusion

Sadly, it is common for both creationists and evolutionists to define terms in a biased way in an attempt to make their claims seem to be true. Look out for these biased definitions as you read about evolution and about creation. By doing so, you might avoid being misled by those who resort to using the no true Scotsman fallacy. More importantly, work to avoid using biased, nonstandard definitions in your own apologetic.

Ad Hominem

Instead of critiquing a person’s claim, you insult that person or question his motives, background, or qualifications.

Ad hominem is Latin for “to the man.” Those using this error in reasoning attack the person instead of his claim.

Whether a person is a good person or a bad person, highly educated or a grade school dropout, is well respected or reviled, has nothing to do with whether that person’s claim is true or false. Good people can make false claims, and bad people can make true claims.
**Evolutionists using the *ad hominem* fallacy**

If the history-deniers who doubt the fact of evolution are ignorant of biology, those who think the world began less than ten thousand years ago are worse than ignorant, they are deluded to the point of perversity.\(^{23}\)

During the filming of this series I developed a deep irritation with the intellectual vacuity of those who actively seek to deny the reality of evolution and the science of biology in general. So empty is such a position, in the face of evidence collected over the centuries, that it can only be politically motivated: there is not a hint of reason in it.\(^{24}\)

Anybody who doesn’t believe in evolution is stupid, insane, or hasn’t read Jerry Coyne.\(^{25}\)

**Creationists using the *ad hominem* fallacy**

Bill Nye does not know what he is talking about, since he only has a bachelor’s degree.

I often hear creationists make this charge against Nye. If we must have an advanced college degree in something to make claims about that thing, then most of us would be unable to discuss science, history, art, athletics, cooking, cars, pets, religion, or other common topics. This shows how ridiculous it is to attack the person instead of that person’s claim.

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Begging the Question
When one claims something is true, because it is true.

Jason Lisle describes begging the question this way,

This fallacy is committed when a person merely assumes what he or she is attempting to prove, or when the premise of an argument actually depends on its conclusion.26

Begging the question is considered to be a logical fallacy because such a claim does not have logical reasoning as support. It is a type of circular reasoning. In addition, it is based on subjective personal choice instead of logic, so it is considered to be arbitrary. Lisle explains that such claims can be turned around to assert the exact opposite,

“Evolution must be true because it is a fact,” while technically valid, is fallacious because the arguer has merely assumed what he is trying to prove. Arbitrary assumptions are not to be used in logical reasoning because we could equally well assume the exact opposite. It would be just as legitimate to argue, “Evolution cannot be true because it is false.”27

A college textbook on logic describes begging the question as,

...the mistake of assuming the truth of what one seeks to prove. The “question” in a formal debate is the issue that is in dispute; to “beg” the question is to ask, or to suppose, that the very matter in controversy be conceded. This is an argument with no merit at all, of course, and one who makes such as assumption commits a gross fallacy.28

26 Lisle, Discerning Truth, 23.
27 Lisle, Discerning Truth, 26.
28 Copi, 152-153.
Begging the question claims are technically “valid” statements of logic because the conclusion follows the premise. They are still considered to be fallacious (an error in reasoning), because they are arbitrary claims.

It is perfectly fine to simply state your position: “I believe evolution is true,” or “I believe evolution is false.” When you are trying to explain why your claim is true, then you should include a logical reason for its truth.

Both creationists and evolutionists commit this fallacy, but I find evolutionists doing so more frequently. Many evolutionists, even highly educated and accomplished evolutionists, seem to have difficulty avoiding this fallacy. They are so ingrained in naturalism (everything has a physical cause) that they end up basing their claims on the assumption of naturalism (that miracles are impossible). They often base their claim that evolution is true, on the assumption that there are no miracles (the assumption that naturalism is true). That is the very definition of begging the question: “Evolution is true because everything has a natural (non-supernatural) cause.” When the discussion is about whether or not everything has a physical cause, one cannot claim the answer is “No” because one assumes it’s “No.”

**Evolutionists using the “Begging the Question” fallacy**

Convergent evolution involves independent adaptations that result in analogous structures because organisms have evolved in similar environments. (Figure 23.8)\(^{29}\)

Homologous structures are similar to each other because they are derived from a common ancestral structure. The set of bones in the forearms of vertebrates is one example. (Figure 23.12)\(^{30}\)


\(^{30}\) Brooker, 488.
When two different animals have a similar body part, evolutionists assume it is the result of either:
1) Those body parts evolving independently in two different animals ("convergent evolution" of "analogous structures"), or
2) Those two animals descended from a common ancestor (inheriting "homologous structures”).

The two preceding example quotes that beg the question are from a college biology textbook (second from bottom on page 31). The first quote refers to figure 23.8 where two different animals have long snouts and long tongues allowing them to eat ants, two different vines have aerial roots allowing them to climb trees, and two different fish “have antifreeze proteins that enable them to survive frigid waters.”31 The second quote refers to figure 23.12 which shows the similarity of human arm bones to the bones in a turtle leg, bat wing, and whale flipper.32

These two quotes from the textbook could be summarized as, “The similar body parts (analogous and homologous structures) in these plants and animals evolved because they evolved. That is begging the question.

These two quotes are from the textbook chapter, “An Introduction to Evolution,” which is devoted to describing evolution theory and why it is true. The chapter ends with five points to discuss, three of which ask the student to explain how the material presented supports the truth of evolution. One of the five discussion points is, “How does [convergent evolution] support evolution?” A second is, “Explain how homologous forelimbs of vertebrates support the theory of evolution.”33

Since this textbook chapter is about showing why evolution is true—and by implication why the alternative, creation, is false—the overall question being considered is, “Are these similar body parts due to evolution or due to creation (common design)?” The textbook begs the question by, in essence, claiming that evolution is true because evolution is true.

31 Brooker, 481.
32 Brooker 483.
33 Brooker, 489.
Nevertheless, all organisms share some common traits because they all share common ancestors at some point in the past.\textsuperscript{34}

Different kinds of organisms share so many characteristics of structure and function because they are related to one another.\textsuperscript{35}

A bat wing, a mouse forelimb, and a human arm serve very different purposes, but they have the same basic components. The similarities arise because all three species share a common four-limbed vertebrate ancestor.\textsuperscript{36}

The bones in the forelimbs of terrestrial and some aquatic vertebrates are remarkably similar because they have all evolved from the forelimbs of a common ancestor.\textsuperscript{37}

[This last quote is used to describe the figure below.]

![Diagram of limb structures](image)

Again, the question here is whether creatures are similar due to common descent or common design. The authors are attempting to prove that common descent is true, and common design (a creator god) is false. Their argument is: “Common descent is true because common descent is true.” The National Academy of Sciences made all four of the preceding fallacious statements in three of the books it wrote to defend evolution.

\textsuperscript{34} Committee on revising science and creationism, 24.
\textsuperscript{35} Working group on Teaching Evolution, 2.
\textsuperscript{36} Steering Committee on Science and Creationism, 14.
\textsuperscript{37} Committee on revising science and creationism, 26.
against creationist claims. These books were reviewed on pages 8-22 in the winter 2017 LSI Journal at www.LutheranScience.org/2017winter.
The National Academy of Sciences is a group of over 2,000 leading scientists formed by act of Congress, a group that advises the US president.

Even if these quoted claims were surrounded by sentences containing good logical reasons of support, the claims would still be fallacious. It would be best to rewrite the claims to eliminate the fallacy, possibly by simply adding “as we will see in the next paragraph.”

The Academy wrote these books to defend evolution against creationist claims, especially to show that common descent is true and the creationist claim of common design is false. The overall argument of these books is to list similarities between creatures (both living and fossilized) and how they each fit their ecosystem, then claim that as proof of common descent. The overall argument of these books begs the question. The Academy claims common descent is true, and common design is false, because that’s the way it is.

What the National Academy does in its books is common practice when defending evolution. For example: Five general biology college textbooks are shown on the bottom of page 31. The evolution story is woven throughout each book. Each also dedicates a section of 16-22 pages presenting evidence that evolution is true. These sections all include a drawing comparing human arm bones to animal bones, similar to what the Academy did.

The text and the graphic on the next page are from one of these textbooks38 (third book from the bottom of page 31). The text claims that the forelimbs of mammals are similar because each descended from a common ancestor. That begs the question.

The text mentions a riddle. The answer to that riddle is that God used a common design. Evolutionists impose a “no creator” assumption on their science, so they do not take into account the possibility of common design by a creator.

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As vertebrates have evolved, the same bones have sometimes been put to different uses. Yet the bones are still recognizable, their presence betraying their evolutionary past. For example, the forelimbs of vertebrates are all homologous structures—structures with different appearances and functions that all derived from the same body part in a common ancestor.

You can see in figure 21.14 how the bones of the forelimb have been modified in different ways for different mammals. Why should these very different structures be composed of the same bones? If evolution had not occurred, this would indeed be a riddle. But when we consider that all of these animals are descended from a common ancestor, it is easy to understand that natural selection has modified the same initial starting blocks to serve very different purposes.

**figure 21.14**

**HOMOLOGY OF THE BONES OF THE FORELIMB OF MAMMALS.** Although these structures show considerable differences in form and function, the same basic bones are present in the forelimbs of humans, cats, bats, porpoises, and horses.
Creationists using the “Begging the Question” fallacy

The Big Bang never happened. It is simply wrong.

If the creationist making this statement only intends to convey that he believes the Big Bang is false, and not explain why he thinks so, then it would be best if he chose words to make that clearer. If he is trying to convince others that evolution is wrong, then he should provide some reason why it is wrong. As it stands, this statement is fallacious, unless he adds some evidence or reasoning for his claim.

The bodies of people, cats, and dogs are similar in many ways because God used a common design in creating them.

This example of begging the question is the creationist version of what we criticized evolutionists for doing. I admit that I have made a few similar claims in the past. It would be best to state the same thing in a way that avoids using a logical fallacy. How about: “People, cats, and dogs live in a common environment (Earth) and digest similar food (carbohydrates, proteins, and fats), so it is not surprising that we find so many similarities between them. These similarities are evidence that God used a similar design in creating people and animals.”

Your Ministry

Avoiding logical fallacies in your apologetic can be challenging, but it is a worthy goal. In addition, gaining the ability to notice logical fallacies committed by others is a useful skill in seeing through false claims.

Finally, remember to show the love of Christ as you talk with others about their Savior. Use apologetics as needed to remove barriers to that gospel message.

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